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RESEARCH PAPER

Property Rights Characteristics Relevant for Innovation and Enterprise Development in Small-scale Forestry

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Abstract In this paper, the property rights system (PR) in small-scale forestry in Europe is analysed in relationship to enterprise and innovation development. The paper applies the theory of property rights to distinguish four criteria relevant for enterprise and innovation development: security of rights, definition of the content, transferability of the rights and owners' participation in the definition of rules for forest management. The description of the PR systems in the national COST Action E30 reports has been used as empirical data to illustrate some barriers to enterprise development according to the four selected criteria. Two categories of rearrangements in the PR systems in favour of innovation were identified: the partition of property rights amongst different users and the public allocation of rights over resource utilisation.

Keywords Property rights · Ownership · Forest attributes · Barriers to innovation and enterprise development · Property right rearrangements

Introduction

Property rights are fundamental institutions of market economies. Enterprise development depends on the security and transferability of rights. Product innovation supposes that a right over a new product could be valuated via the free market exchange. Assumptions of well-defined property rights underlie all theoretical and empirical research about functioning markets. Yet the scholars have different definitions about what the property rights are, as shown by Cole and Grossman (2002), Depoorter and Parisi (2003) and Lueck and Miceli (2005). Despite the recent

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research interest in innovation systems in the forest sector (Rametsteiner 2006), little work has been done to understand the complexity of property rights in European forestry. Property rights were analysed in the context of sustainable forestry (Bass and Hearne 1997), of forest law and regulations (Kissling-Näf and Bisang 2001; Schmithüsen 2004), of common property in Alps region (Kissling-Näf et al. 2002; Glück 2002), of restitution and privatisation of forestland (Bouriaud and Schmithüsen 2005), and of joint community-state forest management schemes (Tuukka 2005).

The purpose of this study is to illustrate how the PR system in forestland and forest utilisation can influence enterprise and innovation development in Europe and to analyse which perspectives of change exist. The study considers that the bundle of rights possessed by the forest owner or by other forest holders contains latent opportunities for new products (product innovation) and new modes of production (process innovation).

The empirical data for the study were collected using the common guidelines provided within the COST Action E30 frame. COST (European Cooperation in the field of Scientific and Technical Research) is a European financing instrument supporting co-operation among scientists and researchers. In the COST Domain on Forests, their Products and Services, Action E30 focused on the integration of urban demand over forest products and services and rural forestry production. During COST Action E30, country reports for each of the 19 participating countries were prepared (COST Action E30 2005). The PR system is described in Part 2 'Small-scale forestry practices' and Part 5 'Forests and ownership'.

This paper first describes some features of the PR system in small-scale forestry in European Union countries. The theory of property rights is then briefly reviewed and four criteria relevant for innovation behaviour and enterprise development in small-scale forestry are discussed. Finally, the barriers to and solutions for enterprise development in small-scale forestry are presented, and conclusions and policy implications drawn.

Small-scale Forestry in Europe

In most European countries, private forest estates—i.e. forests held by non-industrial forest owners—suffer from ownership fragmentation. In Croatia, Bulgaria, Poland and Romania, forest properties of less than 2 ha represent 80–90% of the total area of private forests. In Finland, Norway and Austria approximately 60–70% of the private forest ownerships are less than 20–25 ha. The average area of private forests varies from less than 1 ha in Croatia and Romania to more than 10 ha in Ireland, with the exception of Norway and Finland, where the average size of holdings is considerably bigger.

Some structural features of small-scale forestry in the countries participating in COST Action E30 are reported in Table 1. The form of ownership is approximately balanced between public and private, except in Austria, Finland, Norway and Portugal where private ownership clearly dominates. The number of private forest owners is not known in all countries. In some cases, the statistics are not available

Table 1 Share of private and small-scale forestry in selected European countries

Country	Private forest (1,000 ha)	Private forests in total area (%)	Average size of private holdings (ha)	Small scale forests (% of total private forests)
Austria	2,938	80	na	Less than 5 ha: 28.3%
				Less than 10 ha: 60.9%
Bulgaria	322.4	8.1	Less than 2	Less than 10 ha: 95%
Croatia	461.1	19	0.76	Mainly less than 2 ha
Denmark	223.9	46	9	Less than 2 ha: 1.9%
				Less than 5 ha: 7.1%
				Less than 10 ha: 13.7%
Finland	12 M	61	26	Less than 5 ha: 35%
				Less than 20 ha: 63%
Germany	4,824	46	2.2	Less than 1 ha: 12%
				Less than 10 ha: 40%
Hungary	732	40	About 2.4	na
Ireland	282.9	41	10.6	Less than 5 ha: about 30%
Italy	3,859	60	7.5	Less than 5 ha: 5.7%
				Less than 20 ha: 16.5%
Lithuania	665.7	32	3	Less than 1 ha: 24.7%
				Less than 5 ha: 74.4%
				Less than 10 ha: 90.1%
The Netherlands	120	33	na	Less than 5 ha: 50%
Norway	5,502	97	45	Less than 25 ha: 67%
Poland	1,544	16	1	Mainly less than 2 ha
Portugal	3,129	93	na	Less than 4 ha: 15%
				Less than 10 ha: 22% (50% in Northern and Central region)
Romania	500	8	0.7	Less than 1 ha: 80%
Switzerland	326	29	1.35	Less than 10 ha: 4.9%
				Less than 20 ha: 14.3%
United Kingdom	1,110	43	na	Less than 2 ha: 4%
				Less than 10 ha: 11%
				Less than 20 ha: 17%

Source: Jáger (2005)

(e.g. forest ownerships of less than 5 ha are not recorded in forest statistics in The Netherlands), and in other cases the statistics record only the number of forest holdings.

In Europe small-scale forests are typically owned by individuals (non-industrial private owners). The owners used to be farmers or non-farm rural inhabitants, but the situation is now changing. A large number of owners are indeed urban and

employed by sectors other than agriculture (Ziegenspeck et al. 2004). Decreasing timber revenues and changing socio-economic conditions lead to an increasing abandonment of forests, non-management of forests or minimal intervention strategies. It may even happen that in future the boundaries of forest properties will not be known by the owners. When forests are harvested, the sales may be triggered by the owner's immediate need for money (a son or daughter's wedding or departure to university) and not necessarily by the high timber market prices.

Social and cultural factors directly influence the attitude of owners towards their forests and the context of the enterprise development. The increasing demand for recreation and for secondary residences determines a change in the production mode: forests are used more and more for private amenities—particularly in the United Kingdom (Slee et al. 2005)—and are regarded as an extension of the garden, as in Norway (Lunnan et al. 2005), or as a 'piece' of nature to preserve, as in The Netherlands (Hoogstra and Willems 2005). The trend in the demand for new forest utilisation is creating a need for adaptative and innovative strategies in supplying forest products and services.

Analytical Framework

The PR system in the context of innovation and enterprise development includes a bundle of economic and legal rights regarding the utilisation, creation and appropriation of value from the forest resource. Barzel (1997), Cole and Grossman (2002), Depoorter and Parisi (2003) and Lueck and Miceli (2005) all show that legal conceptions and economic conceptions of the term 'property right' do not fully coincide. A 'property right', in the legal sense, typically refers to a relationship between one person and all the others, with regard to a specific 'thing' (Munzer 1990:16; Christman 1994:16), a thing which is regarded to be 'owned' by that person. The PR scholars mostly use the term 'property rights' in the economic sense: 'institutionally protected possibilities for individuals or groups to exert control over the actual or future use, and/or consumption, and/or allocation of a scarce resource' (Depoorter and Parisi 2003), or ability (or expected ability) of an economic agent to use an asset (Barzel 1997). While economists consider 'right' as the 'possibility' to use, which may or may not be legally-based (Barzel 1997) legal scholars clearly distinguish between right, privilege or liberty, power and immunity (Hohfeld 1913; Munzer 1990) or between mere use, privilege and right (Sjaastad and Bromley 2000). In criticising the property rights school of Coase, Demsetz and other advocates of the market, Bromley (1991) refers to property right as: 'a claim to a benefit stream that the state will agree to protect through the assignment of duty to others who may covet, or somehow interfere with, the benefit stream'. The definition recalls the importance of the right to income, as developed also by Christman (1994).

For analytical purposes, the paper distinguishes between forest ownership, as entitlement to the forestland, and property rights, as legal or economic modalities to use the forest and the forestland. In continental law systems, ownership is characterised by three main rights—namely usus (right to use), fructus (right to

income) and ab usus or right to alienate (to dispose of the owned goods, e.g. sell it or destroy it). The right to dispose of the goods is differentiating ownership from property. Scholars further detail and classify the three above mentioned rights as standard incidents of ownership. Honore (1961) proposes a list of 11 standard incidents that he claims make up private property, including: the rights to exclusive possession; the right to personal use and enjoyment; the right to manage; the right to capital value, including alienation, waste or destruction; the right to transmit by gift, devise, or descent; the right to the income from use by others; the right to security, etc. Christman (1994) synthesises in the concept of liberal ownership the use, transfer and income gained from the thing owned without interference from the state.

The security of rights, their definition and their transferability are key characteristics for well functioning markets (Demsetz 1967; Alchian and Demsetz 1973; North 1990; Barzel 1997). In a well-established property-rights system, enforced property rights provide individuals and groups of individuals the security that their access, withdrawal, management, exclusion and/or alienation will be recognised in the future by potential competitors for these rights (Ostrom and Schlager 1996). The property rights approach developed by the Chicago-school of Law and Economics is not exempted from critics because scholars suppose that free market development leads to optimal results. Yet, the approach remains appropriate to deal with the issue at stake—enterprise and innovation development in a competitive private forest sector. In light of this approach, enterprise and innovation development would require secure and fully transferable property rights to guarantee the right to income from the asset owned. Moreover, well defined rights would reduce conflict in the case of concomitant uses of the same piece of land. Therefore, the paper draws upon three criteria to analyse opportunities for innovation and entrepreneurship development in small-scale forestry (Table 2): security of the rights, definition of the content of the rights and transferability of the forest asset. A fourth criterion, participation of the forest owners in defining the forest management rules, is added to describe the freedom of decision about the use of the forest resource. In the conceptual frame of the 'free market supremacy', an optimum situation for enterprises and innovation development is described for each criterion.

Barriers for Enterprise and Innovation Development in Small-scale Forestry

For each of the four criteria introduced in Table 2, some aspects presented below illustrate the barriers for enterprise and innovation development in small-scale forestry from the viewpoint of the PR system.

Criterion 1: Security of Rights

In the optimum situation, property infringements are sued and punished. Wood thieving is a significant threat for forest owners in Hungary, together with excessive

Table 2 Criteria selected for analysing the characteristics of the PR system for enterprise and innovation development

Criteria	Neo-liberal hypothesis	Optimum	Why important for enterprise and innovation development?
1. Security of the rights	Securing the rights against a take-over, and against any partial violation and restriction is the prerequisite of any economic activity.	Property infringements are sued and punished. Property is restored (in countries in transition). All restrictions of the property are legally based. Income losses due to the restrictions of use are compensated.	Guarantees investment security. Ensures exclusivity. Guarantees the right to income.
2. Definition of the content of rights	Clear definition facilitates transactions in solving conflict over resource utilisation. Definition of rights regulates access and withdrawal rights.	Income generating forest attributes are in the content of ownership. Owners have full control of the income generating forest attributes.	Well specified rights reduce rent dissipation. However, un-specified property rights signify opportunities for innovation.
3. Transferability of the forest asset	Free exchange will lead to an optimal distribution of rights and allow the organisation of the production.	Free, no restricted forest asset transfer.	Transfer of rights can lead to land consolidation; facilitate economies of scale; facilitate the organisation of production for specific forest attributes.
4. Participation of owners in defining the rules of forest management	Participation of owners legitimates the process and reduces conflict.	Partnership-based schemes between the state, representing the social interests and the owners while deciding about resource utilisation.	Allows strategic development/ planning of forest activities. Reduce the cost of information. Avoid conflict.

timber harvesting and inappropriate forest management (Mészáros et al. 2005). In some cases, e.g. Romania, Bulgaria or Serbia, the juridical system failed to properly identify and punish the perpetrators of timber theft in private forests. For example, only 30–40% of the property infringements in Romania were solved in the courts, the rest were classified by the managers of the forests as losses without known offenders. The country reports in COST Action E30 have not mentioned corruption in national forest administration. However, the latter can seriously influence the business milieu in the forest sector, particularly in the process of acquiring rights to harvest the forest resource (Saphores et al. 2006).

Restoration of forest properties in countries in transition is the phenomenon which has the most effect on the security of rights. Small-scale forest sector development was hampered in Bulgaria and Romania by the unsecured situation of landownership; by the restitution of forests in the area of forest reserves (forests with high nature conservation value); by the claims on forests held previously by the municipalities in Bulgaria or by the Orthodox Church in Romania; and by the slow progress of the restitution process (Bouriaud et al. 2005; Chobanova et al. 2005). The claims of minorities or other entities on forestland affected the rights of existing forest users, and particularly the harvesting companies' rights to forest resources. Following a decision of the Romanian Constitutional Court that cancelled the entitlement of a private association with 300,000 ha of forests, all harvesting and timber sales contracts had to be revoked, with serious consequences on local harvesting companies. In fact, frequent changes in the legal acts regulating forestry may severely affect business in forestry due to the uncertainty about the rights to do (as part of the management rights). The frequent changes in the regulations were mentioned as an impeding factor for the development of small-scale companies by 44% of the respondents in a Lithuanian survey (Mizaras et al. 2005).

Finally, in an optimal situation, if there are restrictions on property rights, they should be legal and fully compensated, if not, the situation can be described as a 'public servitude' or a partial take-over of the property (what Honore (1961) calls an expropriation of the asset). The most common restriction without compensation is the restriction on disposal rights, e.g. the restriction on changing the land use category, as in the forest acts in Denmark, Romania, Bulgaria, Croatia and many other countries. A typical public servitude is the Portuguese forest owners' obligation to remove combustible material in order to prevent forest fire; or the practice of hunting activities in the private land in Romania. Agreement on leasing of forestland for hunting involves only the state and the hunters associations. Before a new law was passed in 2006, no compensation or income from hunting was returned to the owner of the forestland.

Criterion 2: Definition of the Content of Rights

Owner's ability to create, appropriate and sustain value depends on the property rights he holds. An asset may have multiple attributes, which in the positive measurement and enforcement costs can make full ownership problematic (Foss and Foss 2001, 2005). The country reports from COST Action E30 show that a

significant part of the forest assets generating income is not under the full control of the owner, because they are openly accessed or they are not specified in the content of the ownership.

Thus, the forest owner's rights usually do not contain exclusive rights to non-wood forest products that may be a non-negligible source of income. Hunting and fishing are exclusive to the owner in Norway, but this is an exception to the rule. The right to collect mushrooms and berries is subject to open access (*everyman's right)* in many countries, including Finland, Sweden, Bulgaria, Romania, Norway and Lithuania. In Lithuania, Finland and Romania the income from mushroom picking is not subject to taxes. The open access to forest products including berries, mushrooms and medicinal herbs is regulated by general rules or 'ethical rules', such as: e.g. in Sweden, 'do not disturb the owner's privacy or damage their property', 'do not collect endangered species' (Vail and Hultkrantz 2000). Equally, collecting forest products by the public at large may be prohibited if owners undertake investments to improve the production. Sometimes regulations exist for the quantities and methods allowed for collection. Regulation of quantities (a threshold defined in kilograms per person and per day) has been used in Romania and Hungary to distinguish between commercial and recreational picking. Due to the difficulties in reinforcing the regulation, the picking of mushrooms and berries, in practice, remained in the public domain, regardless of who legally holds the exclusive right to mushroom or berries harvesting (Bouriaud et al. 2005; Mészáros et al. 2005). Access to the mushrooms in Hungary is a source of conflict between the forest owners and the pickers, and also between the firms who collect mushrooms in a certain area (Mészáros et al. 2005). Conflict arose between Hungarian and Italian firms, particularly on the border between the two countries, because Italian firms could offer better prices to the pickers.

Another example of forest attributes that are not in the content of ownership is the forest contribution to the beauty of the landscape and, through that, to the increased value of land. In the United Kingdom, whilst the presence of forests in the surroundings increases the value of parcels exchanged on the market, no part of this value comes back to the forestry or to the forest owners (Slee et al. 2005). Forest owners also provide nature conservation services for free or, at best, in a compensation-based scheme. During the past decade, an innovative approach of payments for nature conservation began to replace the previous compensation system. Thus, in Austria, Finland and Estonia, forest owners may form a voluntary contractual arrangement with the state by which they are compensated for practising nature conservation-sound management in their forests.

Finally, public access to private forests, despite its important role as part of tourism activities, may or may not be included in the content of ownership. In Portugal, France, Austria and Italy, owners have the right to exclude public access to their forests. In other countries the access to forests is based on legal or customary rights and it is granted to the public irrespective of ownership. In Romania, the public right to access forests is based on customs (unwritten rules). The owner cannot rent it, i.e. receive income from the development of tourism activities on commercial basis on his forestland. However, there are examples in the COST Action E30 country reports where public access is a source of income via charges

for car parking in private forests, fees for accessing forests, fees for using specific services and facilities provided, such as rubbish collection, pathways maintenance, building recreational and playground areas.

Criteria 3: Transferability of Forest Assets

The transferability of forestland is affected by the absent or in-progress land title registration in countries in eastern and central Europe. High transaction fees prevent owners from registering their forestland and exchanging it on the market, particularly when the area is small. The transferability is also affected by the pre-emption rights. Practiced for example in Romania, Slovenia and Norway, the pre-emption rights recognise that the state, neighbours or members of the forest community have the first right of purchase. Sales of forestland are strictly regulated in Norway, where the authorities must approve the prices and the purchasers of properties larger than 10 ha.

In Romania and Hungary, forestland cannot be sold to foreign individuals and companies. Partnerships, legal entities and companies are not allowed to own agricultural and forestland in Hungary. The reason behind this is the fear that foreign investors could buy the land by taking advantage of the low prices compared with European level (Mészáros et al. 2005). However, this restriction is detrimental to the interests of those forest owners who would prefer to sell their land at higher prices.

The transfer of land, or of any rights associated with the land, is not possible when the owner is not known, as in the case of abandoned land, or when the ownership is under litigation. In Italy, for example, the area of abandoned land totalises around 1.2–1.6 M ha (Petennella et al. 2005). In Lithuania, 18% of forests have unknown owners as a result of the privatisation/restitution process (Mizaras et al. 2005). A large area of abandoned forests (300,000 ha) is also recorded in Hungary (Mészáros et al. 2005).

Transfer of rights associated with the land is possible only if the right is specified. According to the Italian local regulation, truffles, as a non-wood forest product, belongs to the landowner. Thus, the right to truffles is specified in the content of the land ownership. Therefore, the landowner can concede the right to harvest to truffle harvesters via payment or other arrangements.

Criteria 4: Participation of Forest Owners in Defining the Rules of Forest Management

Historically the harvesting of timber in Europe has been restricted to follow the sustained forest yield principle. These restrictions have been reinforced in recent decades to include multi-functional, sustainable forest management requirements. Forest management plans are instruments for implementing forest legislation on a compulsory (as in most eastern and central European countries) or on a voluntary basis, according to the national forest administration systems. In regulatory systems,

such as the Romanian one, activities beyond the framework of the forest management plan may be considered as illegal and punished as such. However, the forest owners rarely have the opportunity to participate in the planning process and to influence the formulation of rules for forest management (Bouriaud and Schmithüsen 2005). Implementation of forest management plans established in a top-down manner severely affects the management rights because individuals no longer have 'the authority to determine how, when, and where harvesting from a resource may occur, and if and how the structure of the resource may be changed' (Schlager and Ostrom 1992). Therefore, top-down forest management planning inhibits innovation, in the sense that it limits the opportunity for new products and modes of production, it reduces the flexibility of decisions in forest management, and reduces the incentives for forest owners to embark on any innovative activities. Nonetheless, forest management planning may be a helpful strategic instrument if established on a voluntary basis and if the owner's options about the future are considered.

Re-arrangements of the PR System in Favour of Enterprise Development

Several arrangements of the PR system in selected countries were identified as having the capacity to improve the conditions of innovation and enterprise development in small-scale forestry. These arrangements were classified in two categories: partition of the ownership attributes and public allocation solutions.

Partition of Forest Property Rights

Various types of forest production organisation are based on the partition of the property rights on forestland. Forest owners' associations represent new modes of production in which part of ownership rights (the rights to manage) are transferred to the association. In the COST Action E30 country reports the forest association is mentioned as a regular way of organising forest production. In fact, in the past decade the number of associations has even increased in Italy, Portugal, Bulgaria and Romania. In all cases the owner retains the land title, formalised in the right to alienate, while the association holds part of, or all the management-related rights. Various benefit-sharing arrangements can apply. In some countries associations are implementing all forest-related activities, including harvesting and selling of timber (Norway, Austria and Finland) while in other countries the associations organise the forest management, but are not involved in timber trade (Romania). Local forest management associations in Finland have a close working relationship with forest owners in all matters related to forests, from forest management services to timber sales services (Aarne et al. 2005).

The forest owners' associations can be of different sizes, local (dozens or hundreds of hectares) or regional (hundred of thousands hectares). For example, in Norway three quarters of the industrial roundwood is brokered by nine regional associations (Lunnan et al. 2005). The associations conduct price negotiations with

purchasers and broker timber from the small woodlots owned by the members. In Austria, the Austrian Forest Management Association organises joint timber sales of 2 M m^3 of timber annually. In Sweden, small-scale farmers and woodlot owners have formed associations to organise collective marketing (Vail and Hultkrantz 2000). In Portugal, associations have been created to better utilise public financing opportunities (Mendes and Feliciano 2005).

The partition of forest property rights can go further than the binary combination 'an owner—a second right holder'. In Portugal, for example, the partition of property rights may involve the owner of the land (the lessor), the lessee who rents the land and become the proprietor of standing timber (the lessee is usually the pulp and paper industry) and the manager of the forests.

In the countries in transition, associations were initially created to secure ownership rights—such as in Romania during the last decade—when forest owners organised themselves for better protection against timber theft or to lobby for justice in the land restitution process. In the second stage, associations were created to lobby for involvement in forest management decisions, e.g. the establishment of forest management rules. These first two stages did not require the partition of the property rights, and they were not new modes of production. However, they helped to set up the basic premises of the PR system (criteria 1 and 4): securing the rights against timber theft and participating in the definition of the management rights.

Public Allocation Solutions

Through rights allocation, the state could 'delineate full property rights to the asset' or could restrict the rights of forest owners in order 'to enhance the separation of the individual economic rights' (Barzel 1997). The allocation of rights via state intervention (in the form of ownership or property rights alteration by law) is the fastest way to modify the PR system. Country reports show some examples of governmental interventions in the property rights structure, other than the restitution of ownership:

- Restrictions in the transfer of ownership in order to prevent further forest fragmentation. The *Forest Act of Denmark* (2004) introduced a major change to prohibit the split-up of physically coherent forests into smaller holdings. The change is based on the idea that splitting up of forests would be disadvantageous to recreation (Helles and Thorsen 2005);
- In Scotland, consultations have been undertaken in order to increase the opportunities to purchase or lease forestland which up to now has always been part of the public domain. Under the *Countryside and Right to Way Act* of the United Kingdom, it has become possible to designate land for public access into perpetuity (Slee et al. 2005);
- Joint forest management schemes were established in Hungary under the pressure of forest authorities. They operate as a property manager, similar to a joint stock company. Profit and loses are realised by the members according to their share of the forests (Mészáros et al. 2005);

- Changes are in progress in Italy to remove mushroom collection from the everyman's right regime. Market demand for chestnuts, hazelnuts, mushrooms, truffles and berries is so high that almost all the regional administrations introduced property rights to control their harvesting (Petennella et al. 2005). Likewise, 'outsiders' have recently been excluded from the harvesting of cloud berries in Norway (Lunnan et al. 2005). It is likely that these changes occurred because the sustainability of harvesting was at stake due to the increased number of harvesters.

Conclusions and Policy Implications

The purpose of this study was to illustrate how the PR system in forestland and forest utilisation can influence enterprise and innovation development in Europe and to analyse which perspectives of change exist.

It appears that the current system found in small-scale forest holdings in Europe is dominated by the weak partition of property rights. Most of the forest attributes with potential for innovation remain unspecified in the content of the ownership rights and they often occur in an open access regime. Compared to the optimum situation, the rights to income are not guaranteed or enforceable for all types of the ownership attributes.

Potential new entrants to the market will first face a low level of specification: under ownership only the right to access, right to the timber and right to secondary forest products such mushrooms, berries and truffles are specified. The organisation of forestry production around a limited number of rights in ownership and a limited number of holders corresponds to the traditional mode of production in rural areas, centred on the full-time farmer. However, innovative arrangements are appearing in the services for forest management. Trends noted in e.g. Austria, Denmark and Finland include administration through entrepreneurs, outsourcing work, building-up forest co-operatives arrangements and selling of timber by forest management associations (Aarne et al. 2005; Hoogstra and Willems 2005; Rametsteiner et al. 2005). On the other hand, innovation examples mentioned in the COST Action E30 country reports show the ability of the owner or the association of owners to take profit from the new market demand.

Economic opportunities for enterprise development could improve if specific policies were to address the problem of security of property rights (in countries with economies in transition), the content of the ownership, including the right to income realisation; the issue of public access to forests; the practice of recreational or commercial activities or the harvesting of non-wood forest products. State policies can improve the transferability of forestland and of other forest attributes through regulatory and incentive means; or can enhance greater involvement of forest owners when defining the rules of forest management. Re-arrangement of property rights as identified in the COST Action E30 national reports illustrate that new business opportunities may arise in small-scale forestry if property rights regarding resource utilisation can be exchanged on the market, or negotiated through various forms of contracts.

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